

REMARKS

1. In response to the Office Action dated March 3, 2011, Applicants respectfully request reconsideration. Claims 25, 27-34, 39-51 and 53-65 were last presented for examination. In the outstanding Office Action, claims 25, 27, 34, 39-42, 53-59, 64 and 65 were rejected, and claims 28-33, 43-51 and 60-63 were objected to. By the foregoing amendments, claim 55 has been amended. No claims have been added or cancelled. Upon entry of this paper, claims 25, 27-34, 39-51 and 53-65 will be pending in this application. Of these thirty-five (35) claims, three (3) claims (claims 25, 34 and 55) are independent.

2. Based upon the following Amendments and Remarks, Applicants respectfully request that all outstanding objections and rejections be reconsidered and withdrawn.

Claim Rejections under § 103

3. Claims 25, 27, 34, 39-40, 55-57 and 64 are rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Australian Patent Application No. 200176077 to Single (hereinafter, "Single") in view of U.S. Patent No. 5,553,294 to Nanno et al. (hereinafter, "Nanno"). For at least the following reasons, Applicants respectfully request that these rejections be reconsidered and withdrawn.

Claim 34

4. Applicants' claim 34 recites "a voltage converter circuit configured to convert a supply voltage to a battery voltage," and further recites "wherein the voltage converter circuit further connects the output circuit to the switch matrix and is configured to convert the voltage of the selected one of the batteries to a voltage for use by the output circuit." (*See*, Applicants' claim 34, above.)

5. Single discloses a power management system for an implant "such as a cochlear implant" that includes a power supply having multiple batteries. (*See*, Single, pg. 2, lns. 2-5 and pg. 6, lns. 11-20.) The management system controls a switching means such that the implant draws power from each of the batteries independently. (*See*, Single, pg. 6, lns. 11-20.) Single also discloses that "[a] battery charging means that is mounted external to the

body of the implantee can be used to recharge the batteries of the power supply.” (*See*, Single, pg. 12, lns. 3-4.) More specifically, Single states that “[w]here the prosthesis is a cochlear implant having an implanted antenna coil, the battery charging means also includes an antenna coil that through use of the inductive link . . . allows the implanted power supply to be recharged.” (*See*, Single, pg. 12, lns. 4-8.) When the external power source is available, the management system allows a selected battery to be recharged when necessary. (*See*, Single, pg. 12, lns. 26-29 and pg. 19, lns. 19-26.) Single also discloses that “it is preferred that whenever external power is available it is utilised as the power source by the implant.” (*See*, Single, pg. 12, lns. 21-22.)

6. In the Office Action, the Examiner alleges that Single’s battery charging means is equivalent to the claimed “voltage converter circuit configured to convert a supply voltage to a battery voltage.” (*See*, Office Action, pg. 5; and Applicants’ claim 34, above.) However, the Examiner admits that Single “does not explicitly disclose that the voltage converter circuit further connects the output circuit to the switch matrix and is configured to convert the voltage of the selected one of the batteries to a voltage for use by the output circuit.” (*See*, Office Action, pg. 5.) The Examiner relies secondarily upon Nanno in attempting to cure this deficiency.

7. Nanno discloses “a portable computer powered by rechargeable batteries, and . . . the method of charging and switching individual batteries . . . in a portable computer.” (*See*, Nanno, col. 1, lns. 10-13.) More specifically, Nanno discloses a plurality of rechargeable batteries connected to a power supply circuit. (*See*, Nanno, col. 3, ln. 55; col. 4, lns. 1-3; FIG. 1.) The power supply circuit includes a power control CPU that controls the charging of the rechargeable batteries. (*See*, Nanno, col. 2, lns. 40-41; col. 5, lns. 12-14; FIG. 2.) The power supply further includes a “charge unit” that charges the batteries “under the control of the power control CPU” and a “DC-DC converter 315” that “generates operating powers for the respective components of the apparatus” from any one of the batteries. (*See*, Nanno, col. 5, lns. 51-52 and 58-62; FIG. 2.) Nanno also discloses that the DC-DC

converter is connected to the batteries through various switches. (*See*, Nanno, col. 5, lns. 58-62; FIG. 2.)

8. Applicant submits that Nanno's DC-DC converter is not equivalent to the claimed voltage converter circuit, which is "configured to convert a supply voltage to a battery voltage; . . . connects the output circuit to the switch matrix and is configured to convert the voltage of the selected one of the batteries to a voltage for use by the output circuit." (*See*, Applicants' claim 34, above.) In particular, Applicants submit that Nanno fails to disclose that the DC-DC converter is "configured to convert a supply voltage to a battery voltage," as recited in Applicants' claim 34. (*See*, Applicants' claim 34, above.) Rather, while the DC-DC converter generates operating power from Nanno's batteries, a separate battery charger is used by Nanno to charge the batteries. (*See*, Nanno, col. 5, lns. 52-62; FIG. 2.)

9. In the Office Action, the Examiner alleges that Nanno's DC-DC converter "converts battery voltage to an output voltage suitable for power the output load circuit." (*See*, Office Action, pg. 5.) The Examiner further alleges that "it would have been obvious . . . to have modified the voltage converter circuit to include the voltage conversion means to further connect the output circuit, as disclosed in [Nanno], because it converts the voltage of the selected battery to the supply voltage needed by load circuit." (*See*, Office Action, pg. 6.) As such, the Examiner appears to allege that it would have been obvious (1) to modify Single's external battery charging means to include Nanno's DC-DC converter, and (2) to further modify Single's external battery charging means to connect Single's switch means to Single's output circuit. Applicants respectfully disagree and submit that the Examiner's obviousness conclusion is improper because the Examiner has failed to provide an appropriate basis for making the proposed modifications of Single.

10. As stated by the Supreme Court in *KSR International Co. v. Teleflex Inc.*, "a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art." (127 S.Ct. 1727, 1741 (2007).) The Supreme Court recognized that "rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some *articulated reasoning with*

*some rational underpinning to support the legal conclusion of obviousness.” (See KSR, 127 S.Ct. at 1741 (citing *In re Kahn*, 441 F.3d 977, 988 (C.A.Fed. 2006); emphasis added.)* For at least the reasons discussed below, Applicants submit that the Examiner’s obviousness conclusion is improper because the Examiner has failed to provide an appropriate basis for making either of the two modifications proposed in the Office Action.

The Examiner has failed to provide an adequate reason for combining Single’s battery charging means with Nanno’s DC-DC converter

11. As noted above, the Examiner appears to allege that it would have been obvious to modify Single’s external battery charging means to include Nanno’s DC-DC converter. (See, Office Action, pg. 5.) The Examiner states that the proposed modifications of Single’s battery charging means would have been obvious because Nanno’s DC-DC converter “converts the voltage of the selected battery to the supply voltage needed by load circuit.” (See, Office Action, pg. 6.) However, regardless of the functionality of Nanno’s DC-DC converter, the Examiner has failed to provide any reason for incorporating that functionality into Single’s external battery charging means.

12. Single discloses that when the external battery charging means is being used, the charging means itself is used as the source of power, and not one of the batteries. (See, Single, pg. 12, lns. 18-25.) Single also discloses that “it is preferred that whenever the external power source is being used by the implantee, **the implanted battery source will be disconnected** from the electrical equipment, such as the implant, by the switching means.” (See, Single, pg. 12, lns. 18-20; emphasis added.) Because Single’s external battery charging means is used to power the device instead of the implanted batteries, and not with the batteries, there is no reason for the external charging means to be able to “convert[] the voltage of the selected battery to the supply voltage needed by [the] load circuit.” (See, Office Action, pg. 6.) As such, Applicants submit that it would not have been obvious to incorporate the functionality of Nanno’s DC-DC converter into Single’s external battery charging means. For at least these reasons, Applicants submit that the Examiner’s obviousness conclusion is improper and should be withdrawn.

The proposed modification would change the principle of operation of Single

13. As noted above, the Examiner also appears to allege that it would have been obvious to modify Single's external battery charging means to connect Single's switch means to Single's output circuit. (See, Office Action, pg. 5.) The MPEP states that "[i]f the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959)." (See, MPEP 2143.01(VI)). As noted above, Single discloses that its external battery charging means is used to power the device instead of the implanted batteries, and discloses that it is preferred to disconnect the implanted battery source when the external battery charging means is in use. Accordingly, Applicants submit that using the external charging means to connect the implanted batteries to the output circuit via Single's switching means would change the principle of operation of Single. In addition, Single states that the "implant can preferably operate in a stand alone mode or in concert with an externally mounted device." (See, Single, pg. 8, lns. 28-29; emphasis added.) However, if the external charging means were modified to connect the batteries to the output circuit through the switch means, then Single's implant could not operate in a stand alone mode. Rather, the external charging means would be required at all times to connect the batteries to the output circuit via the switching means. For this additional reason, Applicants submit that using Single's external charging means to connect the implanted batteries to the output circuit via the switching means would change the principle of operation of Single. As such, Applicants submit that it would not have been obvious to modify Single's external battery charging means to connect Single's switch means to Single's output circuit.

14. Moreover, Applicants submit that modifying Single's external charging means both to connect Single's switch means to Single's output circuit and to convert the battery voltage to a supply voltage needed by the output circuit would also change the principle of operation of Single for reasons similar to those discussed above. Accordingly, Applicants submit that it would not have been obvious to modify Single as proposed by the Examiner.

15. For at least the reasons discussed above, Applicants submit that the Examiner's obviousness conclusion is improper and respectfully request that this rejection be reconsidered and withdrawn.

Claim 25

16. For at least the reasons provided above in relation to claim 34, Applicants submit that the Examiner's obviousness conclusion in relation to claim 25 is improper. For at least the reasons discussed above in relation to claim 34, Applicants submit that it would not have been obvious to combine Single and Nanno as proposed by the Examiner. As such, Applicants submit that Single and Nanno fail to anticipate or render obvious all elements of claim 25. Specifically, Single and Nanno, individually and in combination, fail to anticipate or render obvious a "voltage converter circuit" of an implantable hearing prosthesis that converts "a supply voltage to a battery voltage," converts "the voltage output from the selected one of the batteries to a voltage for use by the output circuit," and that selectively connects "a selected one of the batteries to the voltage converter circuit to enable the selected one of the batteries to be discharged through the output circuit." (*See*, Applicants' claim 25, above.) Accordingly, Applicants respectfully request that this rejection be reconsidered and withdrawn.

Claim 55

17. For at least the reasons provided above in relation to claim 34, Applicants submit that the Examiner's obviousness conclusion in relation to claim 55 is improper. For at least the reasons discussed above in relation to claim 34, Applicants submit that it would not have been obvious to combine Single and Nanno as proposed by the Examiner. As such, Applicants submit that Single and Nanno fail to anticipate or render obvious all elements of claim 55. Specifically, Single and Nanno, individually and in combination, fail to anticipate or render obvious "a voltage converter circuit configured to convert the supply voltage to a battery voltage," and that "connects the output circuit to the switch matrix and is configured to convert the voltage of the selected one of the batteries to a voltage for use by the output

circuit.” (See, Applicants’ claim 25, above.) Accordingly, Applicants respectfully request that this rejection be reconsidered and withdrawn.

Dependent claims

18. Applicants submit that the outstanding rejections of the rejected dependent claims depend upon the improper rejections of the independent claims. As such, Applicants submit that the rejections of the rejected dependent claims are improper at least for reasons similar to those discussed above in relation to the independent claims. Accordingly, Applicants respectfully request that the rejections of the dependent claims be withdrawn.

Allowable Subject Matter

19. Applicants thank the Examiner for indicating the allowability of the subject matter recited in Applicant’s claims 28-33, 43-51 and 60-63.

Claim Amendment

20. Applicants have amended claim 55 to be consistent with Applicants’ claim 25. More specifically, claim 55 has been amended above to replace “the conversion means” with “the voltage converter circuit” on line 13 of claim 55. (See, Applicants’ claim 55, above.) Applicants submit that this amendment raises no new issues requiring further consideration and/or search, as the above amendment makes claim 55 consistent with the limitations of claim 25, which has already been considered by the Examiner. As such, Applicants respectfully request entry of the above amendment.

Conclusion

21. In view of the foregoing, Applicants respectfully submit that this application is now in condition for allowance. A notice to this effect is respectfully requested.

22. Applicants makes no admission by not addressing any outstanding rejections or bases of rejections. Furthermore, Applicants reserve the right to pursue any cancelled claims or other subject matter disclosed in this application in a continuation or divisional application.

Thus, cancellations and amendments of above claims, are not to be construed as an admission regarding the patentability of any claims.

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Respectfully submitted,

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